UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,190	02/28/2002	Pia M. Challita-Eid	511582003420	7796

36327 7590 11/15/2004

AGENSYS C/O MORRISON & FOERSTER LLP
3811 VALLEY CENTRE DRIVE, SUITE 500
SAN DIEGO, CA 92130

EXAMINER	
BLANCHARD, DAVID J	

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/087,190	CHALLITA-EID ET AL.	
	Examiner	Art Unit	
	David J Blanchard	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9,10,12,13 and 78-82* is/are pending in the application.

4a) Of the above claim(s) *15, 48-49 and 54* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9,10,12,13 and 78-82* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Exhibits A and B*.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 4-7, 9-10, 12-13 and 78-82 in the reply filed on 8/23/2004 is acknowledged.

2. Claims 15, 48-49 and 54 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

3. Claims 4-7, 9-10, 12-13 and 78-82 are under examination.

Specification

4. The disclosure is objected to because it contains embedded hyperlinks and/or other form of browser-executable code. For example, see page 63, line 2. Applicant is required to check the entire disclosure and delete all the embedded hyperlinks and/or other form of browser-executable code. See MPEP § 608.01.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is indefinite for reciting "A hybridoma that produces an antibody or antibody fragment". Hybridomas are well known in the art for their ability to produce whole antibodies, however, hybridomas are not known as capable of producing antibody fragments. Thus, it is unclear what is contemplated by the phrase "A hybridoma that produces an antibody or antibody fragment". Does the hybridoma produce the whole antibody, which is then processed into antibody fragments by proteolytic cleavage or is some other meaning contemplated by the phrase?

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 4-7, 9-10, 12-13 and 78-82 are rejected under 35 U.S.C. 102(e) as being anticipated by Tang et al (WO 01/53312 A1, 1/21/2000, pp. 1-104, 293, 604-607).

The claims are drawn to an isolated antibody or fragment thereof that binds to SEQ ID NO:3, wherein the antibody is conjugated to an agent, is a monoclonal antibody, a human antibody, a humanized antibody or a chimeric antibody and wherein the antibody fragment is a Fab, F(ab)2, Fv or sFv fragment. Further, the claims recite that the monoclonal antibody is recombinantly produced and is a single-chain antibody. Claim 78 recites wherein the agent is a diagnostic agent or a cytotoxic agent and claims 79-82 recite various radioactive isotopes, chemotherapeutic agents and toxins. Claim 12 is drawn to a hybridoma that produces an antibody or fragment thereof that binds to a protein comprising SEQ ID NO:3.

Tang et al teach a polypeptide (SEQ ID NO:3188) having 100% amino acid identity with residues 16-205 of SEQ ID NO:3 and antibodies to the polypeptide (see pages 74-84 and 293 and the alignment attached to the back of this Office Action). Tang et al teach monoclonal antibodies, human, humanized, single-chain antibodies and antibody fragments including Fab, F(ab)2 and Fv fragments (see pages 76 and 78-80). Tang et al teach monoclonal antibodies made by recombinant DNA methods (i.e., recombinantly produced) as well as a hybridomas (see page 77, lines 23-24 and page 76). Tang et al also teach immunoconjugates comprising an antibody conjugated to a cytotoxic agent or diagnostic agent, wherein the cytotoxic agent is a chemotherapeutic agent, a toxin or a radioactive isotope (see page 83, lines 32-35). Tang et al teach

toxins including diptheria toxin, enomycin, phenomycin, Pseudomonas exotoxin A, abrin A chain, mitogellin, modeccin A chain and alpha-sarcin as well as the chemotherapeutic agent gelonin (see page 84, lines 2-7). Tang et al teach radioactive isotopes including ^{212}Bi, ^{131}I, ^{90}Y and ^{186}Re. Thus, Tang et al anticipate the claims.

9. Claims 4-7, 9-10, 12-13 and 78-79 are rejected under 35 U.S.C. 102(e) as being anticipated by Edwards et al (U.S. Patent 6,639,063 B1, 8/5/1999).

The claims have been described supra.

Edwards et al teach a polypeptide (SEQ ID NO:4959) having 100% amino acid identity with residues 1-117 of SEQ ID NO:3 and antibodies to the polypeptide (see column 20, lines 34-39 and columns 72-77). As a property is inherent to a product the antibodies taught by Edwards et al would bind residues 1-117 of SEQ ID NO:3. Edwards et al teach monoclonal antibodies, chimeric, humanized and human antibodies and single-chain antibodies (scFv) (see columns 72-75). Edwards et al teach antibody fragments including Fab, F(ab)2, single-chain Fvs and disulfide-linked Fvs (see bridging paragraph of columns 72-73). Edwards et al teach a hybridoma for producing the antibody and antibody production by recombinant DNA methods (i.e., recombinantly produced) (see column 75). Edwards et al teach antibodies conjugated to molecules useful in as labels in detection assays and effector molecules such as heterologous polypeptides, drugs or toxins (see column 74, lines 36-45). Thus, Edwards et al anticipate the claims.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 4-7, 9-10, 12-13 and 78-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards et al (U.S. Patent 6,639,063 B1, 8/5/1999) in view of Thorpe et al (U.S. Patent 6,342,219 B1, filed 4/28/2000).

The claims have been described supra.

Edwards et al have been described supra. Edwards et al do not specifically teach antibodies conjugated to the radioactive isotopes, chemotherapeutic agents and toxins recited in claims 80-82. This deficiency is made up for in the teachings of Thorpe et al.

Thorpe et al teach immunoconjugates comprising toxins that are plant, fungus, or bacterial derived toxins (see column 29, lines 1-18) or radioactive isotopes (see column 39, lines 31-44) or chemotherapeutic agents including taxol, vinblastine, vincristine, colchicines as well as others (see column 29, lines 38-43).

It would have been prima facie obvious to one of ordinary skill in the art at the time the claimed invention was made to have conjugated the antibodies taught by Edwards et al to the toxins, radioisotopes or chemotherapeutic agents as taught by Thorpe et al for diagnostic and therapeutic methods.

One of ordinary skill in the art would have been motivated to and had a reasonable expectation of success at the time the invention was made to have conjugated the antibodies taught by Edwards et al to the toxins, radioisotopes or chemotherapeutic agents as taught by Thorpe et al for diagnostic and therapeutic methods because Edwards et al teach antibodies that bind a polypeptide (SEQ ID NO:4959) having 100% amino acid identity with residues 1-117 of SEQ ID NO:3 and

antibody conjugates comprising heterologous polypeptides, drugs or toxins for in vitro and in vivo diagnostic and therapeutic methods and Thorpe et al teach immunoconjugates comprising toxins (see column 29, lines 1-18) or radioactive isotopes (see column 39, lines 31-44) or chemotherapeutic agents such as taxol, vinblastine, vincristine, colchicines as well as others for diagnostic and therapeutic methods (see column 29, lines 38-43). Thus, it would have been prima facie obvious to one skilled in the art at the time the invention was made to have conjugated the antibodies taught by Edwards et al to the toxins, radioisotopes or chemotherapeutic agents as taught by Thorpe et al for diagnostic and therapeutic methods.

Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references.

Conclusion

12. No claim is allowed.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Blanchard whose telephone number is (571) 272-0827. The examiner can normally be reached at Monday through Friday from 8:00 AM to 6:00 PM, with alternate Fridays off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew, can be reached at (571) 272-0787. The official fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully,
David J. Blanchard
571-272-0827

LARRY R. HELMS, PH.D
PRIMARY EXAMINER

Exhibit A

```
RESULT 3
AAM40043
ID   AAM40043 standard; protein; 190 AA.
XX
AC   AAM40043;
XX
DT   22-OCT-2001  (first entry)
XX
DE   Human polypeptide SEQ ID NO 3188.
XX
KW   Human; nootropic; immunosuppressant; cytostatic; gene therapy; cancer;
KW   peripheral nervous system; neuropathy; central nervous system; CNS;
KW   Alzheimer's; Parkinson's disease; Huntington's disease; haemostatic;
KW   amyotrophic lateral sclerosis; Shy-Drager Syndrome; chemotactic;
KW   chemokinetic; thrombolytic; drug screening; arthritis; inflammation;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200153312-A1.
XX
PD   26-JUL-2001.
XX
PF   26-DEC-2000; 2000WO-US034263.
XX
PR   23-DEC-1999;   99US-00471275.
PR   21-JAN-2000; 2000US-00488725.
PR   25-APR-2000; 2000US-00552317.
PR   20-JUN-2000; 2000US-00598042.
PR   19-JUL-2000; 2000US-00620312.
PR   03-AUG-2000; 2000US-00653450.
PR   14-SEP-2000; 2000US-00662191.
PR   19-OCT-2000; 2000US-00693036.
PR   29-NOV-2000; 2000US-00727344.
XX
PA   (HYSE-) HYSEQ INC.
XX
PI   Tang YT, Liu C, Asundi V, Chen R, Ma Y, Qian XB, Ren F, Wang D;
PI   Wang J, Wang Z, Wehrman T, Xu C, Xue AJ, Yang Y, Zhang J, Zhao QA;
PI   Zhou P, Goodrich R, Drmanac RT;
XX
DR   WPI; 2001-442253/47.
DR   N-PSDB; AAI59199.
XX
PT   Novel nucleic acids and polypeptides, useful for treating disorders such
PT   as central nervous system injuries.
XX
PS   Example 4; SEQ ID NO 3188; 10078pp; English.
XX
CC   The invention relates to human nucleic acids (AAI57798-AAI61369) and the
CC   encoded polypeptides (AAM38642-AAM42213) with nootropic,
CC   immunosuppressant and cytostatic activity. The polynucleotides are useful
CC   in gene therapy. A composition containing a polypeptide or polynucleotide
CC   of the invention may be used to treat diseases of the peripheral nervous
CC   system, such as peripheral nervous injuries, peripheral neuropathy and
CC   localised neuropathies and central nervous system diseases, such as
CC   Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
CC   lateral sclerosis, and Shy-Drager Syndrome. Other uses include the
CC   utilisation of the activities such as: Immune system suppression,
CC   Activin/inhibin activity, chemotactic/chemokinetic activity, haemostatic
CC   and thrombolytic activity, cancer diagnosis and therapy, drug screening,
CC   assays for receptor activity, arthritis and inflammation, leukaemias and
CC   C.N.S disorders. Note: The sequence data for this patent did not form
CC   part of the printed specification
XX
SQ   Sequence 190 AA;

  Query Match             93.1%;  Score 975;  DB 4;  Length 190;
  Best Local Similarity   100.0%;  Pred. No. 6e-82;
  Matches  190;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         16 MMEIFSETKDVFQLKDLEKIAPKEKGITAMSVKEVLQSLVDDGMVDCERIGTSNYYWAFP 75
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MMEIFSETKDVFQLKDLEKIAPKEKGITAMSVKEVLQSLVDDGMVDCERIGTSNYYWAFP 60

Qy         76 SKALHARKHKLEVLESQLSEGSQKHASLQKSIEKAKIGRCETEERTRLAKELSSLRDQRE 135
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 SKALHARKHKLEVLESQLSEGSQKHASLQKSIEKAKIGRCETEERTRLAKELSSLRDQRE 120

Qy        136 QLKAEVEKYKDCDPQVVEEIRQANKVAKEAANRWTDNIFAIKSWAKRKFGFEENKIDRTF 195
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 QLKAEVEKYKDCDPQVVEEIRQANKVAKEAANRWTDNIFAIKSWAKRKFGFEENKIDRTF 180

Qy        196 GIPEDFDYID 205
               ||||||||||
Db        181 GIPEDFDYID 190
```

Exhibit B

ALIGNMENTS

RESULT 1
US-09-621-976-4959
; Sequence 4959, Application US/09621976
; Patent No. 6639063
; GENERAL INFORMATION:
; APPLICANT: Dumas Milne Edwards, J.B.
; APPLICANT: Jobert, S.
; APPLICANT: Giordano, J.Y.
; TITLE OF INVENTION: ESTs and Encoded Human Proteins.
; FILE REFERENCE: GENSET.054PR2
; CURRENT APPLICATION NUMBER: US/09/621,976
; CURRENT FILING DATE: 2000-07-21
; NUMBER OF SEQ ID NOS: 19335
; SOFTWARE: Patent.pm
; SEQ ID NO 4959
; LENGTH: 127
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-621-976-4959

Query Match 56.7%; Score 593.5; DB 4; Length 127;
Best Local Similarity 89.6%; Pred. No. 1.2e-50;
Matches 120; Conservative 5; Mismatches 2; Indels 7; Gaps 1;

```
Qy          1 MSKKKGLSAEEKRTRMMEIFSETKDVFQLKDLEKIAPKEKGITAMSVKEVLQSLVDDGMV 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MSKKKGLSAEEKRTRMMEIFSETKDVFQLKDLEKIAPKEKGITAMSVKEVLQSLVDDGMV 60

Qy         61 DCERIGTSNYYWAFPSKALHARKHKLEVLESQLSEGSQKHASLQKSIEKAKIGRCETEER 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 DCERIGTSNYYWAFPSKALHARKHKLEVLESQLSEGSQKHASLQKSIEKAKIGRCET--- 117

Qy        121 TRLAKELSSLRDQR 134
                   :|| :::::|
Db        118 ----IKLSGMQEER 127
```